

APPENDIX D

PUBLIC SCOPING SUMMARY

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APPENDIX D. PUBLIC SCOPING SUMMARY

This Appendix describes how DOE defined the scope of the *Savannah River Site High-Level Waste Tank Systems Closure Program Environmental Impact Statement*. It also describes the comments received from the stakeholders of SRS on this planned environmental impact statement (EIS), the issues raised during the scoping process, and the DOE responses to these comments.

D.1 Scoping Process

On December 29, 1998, DOE announced its intent to prepare an EIS to assess the environmental impacts of closing the HLW tanks at the SRS in accordance with the *Industrial Wastewater Closure Plan for F-and H-Area High Level Waste Tank Systems*. The Notice of Intent began a scoping period, which extended until February 12, 1999, and announced that DOE would hold scoping meetings in Columbia and North Augusta, South Carolina during the scoping period. The scoping meetings were subsequently announced in newspapers in the vicinity of the meeting locations.

DOE encouraged SRS stakeholders and other interested parties to submit comments for consideration in the preparation of the EIS and established several methods for such submittals:

- By letter to the Savannah River Operations Office
- By voice mail using a toll-free telephone number
- By facsimile transmission (fax) using a toll-free telephone number
- By electronic mail to an address at the Savannah River Site
- Orally or in writing at public scoping meetings

DOE held scoping meetings on the planned EIS in North Augusta, South Carolina on January 14, 1999 and in Columbia, South Carolina on January 19, 1999. DOE held an afternoon and an evening session at each meeting. Each session included an introduction to the NEPA process in relation to the tank closure proposal, a description of the HLW tanks and alternatives for closure, and a video showing some aspects of the closure of Tank 17 at the SRS. Each session also included opportunities to ask questions of DOE officials and opportunities to offer comments on the scope of the EIS for the record. Transcripts of the question and answer and comment portions of the meetings are available for inspection at the DOE Public Reading Room, Gregg-Graniteville Library, University of South Carolina at Aiken, University Parkway, Aiken, South Carolina.

D.2 Summary of Scoping Comments and Issues

During the scoping period DOE received the following:

- Three comment letters
- One comment E-mail
- One recommendation from the Savannah River Site Citizens Advisory Board
- Seven verbal comments given at the scoping meetings

In these submittals and presentations, DOE identified thirty-six separate comments. The Department reviewed and categorized these comments. The following paragraphs discuss the comments and provide DOE's responses to them.

Comments Relative to the Alternatives: Six comments recommended changes or additions to the alternatives. Comments included the following:

- The scope of this EIS should be expanded to include identification of an alternative, such as ion exchange, to the In-Tank Precipitation process.

DOE Response: DOE has chosen to prepare a separate Supplemental EIS on the construction and operation of a new salt disposition technology to replace In-Tank Precipitation. The selection of a new technology is independent of tank closure, from both technical and regulatory viewpoints. The two EISs are being prepared on similar schedules, and overlap of DOE staff assigned to support the two programs ensures consistent treatment of common issues.

- The EIS should include an alternative of completely emptying the tanks and thoroughly washing them. This alternative would provide the greatest long-term protection of the environment around and down gradient of the tanks as well as the most protection to future generations.

DOE Response: This suggested alternative is essentially what would happen for both the Clean and Stabilize Tanks Alternative and the Clean and Remove Tanks Alternative.

- Any alternative for tank closure that is premised on the re-classification of residual high-level waste as “incidental waste,” violates the 1982 Nuclear Waste Policy Act (“NWPA”), §§ 10101 et seq., and therefore cannot be considered as a viable alternative in the proposed EIS.

DOE Response: DOE has evaluated the characteristics of the expected residual waste relative to the DOE Order 435.1 process for incidental waste, and has concluded that the Order requirements will be met for waste left in the tanks.

- Add an alternative “Delayed Tank Closure” pending research and development activi-

ties. Delay subsequent tank closures (but not tank emptying and cleaning activities) beyond 2003; perform technology development to enable removal of residual tank waste.

DOE Response: DOE finds the “Delayed Closure” proposed alternative to be no different than no action. DOE has ongoing research and development efforts underway aimed at improving closure techniques.

- Add an alternative to have separate actions: tank removal and grouting taking place in different tanks, as needed.

DOE Response: This Draft EIS examines the impacts of both tank removal and grouting. Depending on the ability of cleaning to meet the performance requirements for a given tank, the decisionmaker may elect to remove a tank if it is not possible to meet the performance requirements by another method. This Draft EIS examines the alternative of cleaning the tanks and removing them for appropriate disposal.

- Add the alternative “complete tank removal,” with point of compliance for groundwater contamination located within F- and H-Area Tank Farms, and no reliance on long-term institutional controls for intruder scenario exposures evaluated for the impact assessment.

DOE Response: DOE has evaluated in the draft EIS potential contamination at 1 meter and 100 meters from the tank farm for each alternative. Intruder scenarios are evaluated without consideration of institutional controls after 100 years. DOE intends however, to maintain long-term institutional control, consistent with applicable regulations.

Comments Related to Data Needs: Three comments suggested data to be included. Comments included the following:

- DOE should include the total volume of waste and the total amount of each radionuclide and chemical expected to remain in the tanks.

- DOE should include a description of the grout or other material proposed to fill the tanks.
- DOE should include potential release of contaminants from closed tanks.

DOE Response: A list of radionuclides and their half-lives that may remain in the tanks is provided in the Draft EIS. See Appendix C, Table C.3.1-1. DOE has described the types of grout used to fill the tanks and provided reference to the research and development methods and results. See Appendix A, Section A.4.3. The potential for release of contaminants from closed tanks to the soil is described in the Draft EIS. Section Chapter 4, Section 4.2.1.

Comments Related to Evaluations and Analyses: Eleven comments suggested evaluations to be used or concerns about analyses. Comments included the following:

- DOE should remove one tank to see what the ground is like underneath.

DOE Response: The cost and risk to workers to remove one tank would make the suggested procedure difficult to perform. As part of the overall closure process conditions around and under the tanks would be assessed using monitoring and sampling data, and the results used as part of the closure module modeling.

- DOE should use an evaluation technique cited in a 1995 article from the Harvard School of Public Health.

DOE Response: This approach applies to setting priorities, not deciding on a particular action and, therefore, does not apply. For example, even if the evaluation recommended by this comment showed that more lives would be saved by funding public health and safety instead of closing the tanks, DOE could not do so.

- The interaction of all contamination from the tanks with all other sources at the SRS should be considered.

DOE Response: The Closure Plan requires that the process of establishing performance requirements for closure modules for individual tanks explicitly examine the sources of contamination that could interact with residual waste in the tank.

- The effects of contamination as they impact subsistence sportsmen should be included.

DOE Response: In the Draft EIS, DOE has estimated the potential health effects to a hypothetical maximally exposed individual, who drinks water, eats food (including fish), and breathes air exposed to SRS releases. In addition, the SRS Annual Environmental Monitoring report estimates the exposure of a recreational sportsman resulting from SRS releases via all pathways.

- Intergenerational concerns and long-term hazards to local ecosystems should be discussed.

DOE Response: DOE calculates adverse health effects to workers and the general public in terms of an estimated number of total fatal cancers. The calculated numbers of excess cancers reported in the Draft EIS are less than one for all alternatives. The risk of genetic effects is smaller than the latent cancer risk (on a per person-rem basis); therefore DOE does not expect any cross-generational effects from implementation of any of the alternatives.

In the Draft EIS DOE has addressed the issue of the potential for long-term hazards to ecosystems. See Chapter 4, section 4.2.3.

- Analyses should use using the data obtained from the closure of Tanks 17 and 20, including (1) data from emptying and cleaning work; (2) analyses of residual waste (predictions from process records and actual measurements); (3) worker dosimetry; (4) regulatory and legal issues; and (5) costs.
- Dosimetric records of workers performing closure of Tanks 17 and 20 must be included in the EIS, and contrasted with the EA-1164 estimates for worker exposure.

DOE Response: One of the primary purposes of the EIS is to incorporate lessons learned from closure of tanks 17 and 20 into actions for closure of the remainder of the tanks. DOE has used (1) data from emptying and cleaning work; (2) analyses of residual waste (predictions from process records and actual measurements); (3) worker dosimetry; and (4) cost. DOE has made the dosimetric comparisons and contrasts for workers to the extent possible given the availability of the required information.

- DOE cannot rely on the current groundwater transport modeling (MEPAS) to support the EIS conclusions.

DOE Response: DOE does not find the MEPAS model inadequate for representing contaminant fate and transport. The South Carolina Department of Health and Environmental Control and the Environmental Protection Agency – Region IV have concurred with DOE's use of the MEPAS code for fate and transport modeling.

- New data from recent measurements at the Nevada Test Site have shown that more rapid groundwater transport of actinides can occur via the mechanism of actinide binding with colloids, should be used in the EIS analysis.

DOE Response: DOE has reviewed the Nevada data. DOE finds that the data represent phenomena specific to conditions at the Nevada Test Site. The modeling for this Draft EIS represents site specific conditions wherever possible.

- Horizontal groundwater flow and tank failure due to this horizontal flow must be modeled.

DOE Response: DOE has performed the necessary calculations to account for the differences in groundwater flows. The results are represented in the fate and transport modeling in the Draft EIS. See Appendix C.

Comments Related to Criteria and Regulations: Six comments dealt with concerns about

criteria used or regulatory compliance. Comments included the following:

- The EIS should clearly define the criteria for assessing technical and economic feasibility, solicit public comment on the criteria, and then should use the criteria in assessing alternatives.

DOE Response: The criteria for assessing technical and economic feasibility are given in the "waste incidental to reprocessing" process in DOE Order 435.1. Public input to this Order was solicited when this Order went through the standards review / development process which all DOE Orders must have.

- Ensure that the EIS data and conclusions feed into the CERCLA process to save time and costs.

DOE Response: DOE will ensure that the EIS data gathering and analysis supports the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) process for the ultimate closure of the Tank Farms. See Chapter 7, Section 7.3.2.

- DOE should include in the EIS a full discussion of applicable requirements of the Resource Conservation and Recovery Act, Comprehensive Emergency Response, compensation, and Liability Act, and the Nuclear Regulatory Commission (NRC) criteria.

DOE Response: The Draft EIS has a full discussion of applicable laws and regulations in Chapter 7.

- The choice of the seepline as the point-of-compliance for evaluation provides a highly misleading measure of the significant environmental contamination resulting from tank closure.

DOE Response: In addition to the point of compliance information, the Draft EIS presents estimated groundwater contamination at distances of 1 meter and 100 meters from the tank farm. See Section 4.2.

- Activities that result in residual High-Level Waste cannot be conducted with the approval of the SCDHEC if the NRC does not classify residual waste as “incidental.”
- This reclassification of the residual High-Level Waste as “incidental” violates the 1982 NWPA and, accepting *arguendo* its legitimacy, is inconsistent with the narrow scope of the exemption for incidental waste.

DOE Response: The Draft EIS discusses the bases for determining that residual waste remaining after tank cleaning is “waste incidental to reprocessing.”

Comments Related to Schedule and Process: Two comments dealt with schedule or EIS process. Comments include the following:

- Sweeping the SRS tank closure into a national program has or will slow down the process of closing the tanks at SRS.
- The EIS should be cancelled unless there are significant worker safety, public health and environmental protection issues that need to be addressed. But if the EIS proceeds, it should be done in a minimum amount of time with a minimum expenditure of funds.

DOE Response: Preparing an EIS at this time will not slow down the tank closure process. SRS is committed to closing additional tanks in 2003 in accordance with the Federal Facility Agreement. Bulk waste removal will proceed as scheduled while the EIS is being prepared. DOE will continue the EIS process. While DOE knows of no new issues, the EIS process involves a more thorough look at worker and public safety and health issues, and environmental protection issues, than was accomplished with the 1996 environmental assessment. DOE will devote the amount of funds and time necessary to complete the EIS.

Comments Covering Miscellaneous Topics: Four comments dealt with a variety of topics that do not fit in any of the areas given above. Comments include the following:

- Tanks that are being considered for closure are the same tanks that have been reported to have leaked in the past.

DOE Response: Some of the high-level waste tanks at SRS have leaked in the past. The HLW tanks are of four different designs (identified as Type I, II, III, or IV), all constructed of carbon-steel inside reinforced concrete containment vaults. The major design features and dimensions of each tank design are shown in Figure 1-5.

There are 12 Type I tanks (4 in H-Area and 8 in F-Area) that were built in 1952 and 1953. These tanks have partial-height secondary containment and active cooling. The tank tops are 9.5 feet below grade, and the bottoms of Tanks 1 through 8 in F-Area are above the seasonal high water table. The bottoms of Tanks 9 through 12 in H-Area are in the water table. Tanks 1 and 9 through 12 are known to have leak sites where waste has leaked from the primary to the secondary containment. There is no evidence that the waste has leaked from the secondary containment.

Four Type II tanks, Tanks 13 through 16, were built in 1956 in H-Area. These tanks have partial-height secondary containment and active cooling. These tanks are above the water table. All four tanks have known leak sites where waste has leaked from the primary to the secondary containment. In Tank 16, waste overflowed the annulus pan (secondary containment) and migrated into the surrounding soil. Waste removal from the Tank 16 primary vessel was completed in 1980, but waste that leaked into the annulus has not been removed.

Eight Type IV tanks, Tanks 17 through 24, were built between 1958 and 1962. These tanks have single steel walls and do not have active cooling. Tanks 17 through 20 in the F-Area Tank Farm are slightly above the water table. Tanks 19 and 20 have known cracks that are believed to have been caused by groundwater corrosion of the tank walls in the past. Small amounts of groundwater have leaked into these tanks, but there is no evidence that waste ever leaked out. Tanks 17 and 20 have been closed in the manner

described in the Clean and Fill with Grout Option of the Clean and Stabilize Tanks Alternative evaluated in the EIS. Tanks 21 through 24 in the H-Area Tank Farm are above the groundwater table, but are in a perched water table, caused by the original construction of the tank area.

The newest design, Type III tanks, have a full-height secondary tank and active cooling. These 27 tanks were placed in service between 1969 and 1986, with 10 in the F-Area and 17 in the H-Area Tank Farms. All Type III tanks are above the water table.

- There is a problem in getting the solidified material from the bottom of the tanks.

DOE Response: The Draft EIS discusses the difficulty of removing sludge from the bottom of the tanks, and it describes and evaluates the options for removing such materials and stabilizing the residue that remains after cleaning.

- New SRS missions will add to the amount of high-level waste and prolong the closure.

DOE Response: DOE has recently selected SRS as the site for several new missions. The Pit Disassembly and Conversion Facility, Mixed Oxide Fuel Facility, Immobilization Facility, and the Tritium Extraction Facility will not add HLW to the current SRS inventory. Stabilizing plutonium residues from the Rocky Flats Environmental Technology Site at SRS is expected to result in the equivalent of five DWPF canisters. The melt and dilute facility for management of spent nuclear fuel would add the equivalent of 17 DWPF canisters. These canisters are in addition to the approximately 6,000 canisters DOE expects to produce absent the new missions.

- It is not reasonable for the EIS to assume that groundwater remediation could compensate for radionuclide release to the environment.

DOE Response: DOE has not assumed in the Draft EIS that groundwater remediation could compensate for long-term releases of contamination to the groundwater after tank closure. The *Industrial Waste Water Closure Plan for F- and H-Area High-Level Waste Tank Systems* also does not make this assumption.